

=====

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2009; month=6; day=9; hr=14; min=13; sec=35; ms=905; ]

=====

Application No: 10585863 Version No: 2.0

Input Set:

Output Set:

Started: 2009-06-05 10:14:44.269  
Finished: 2009-06-05 10:14:44.741  
Elapsed: 0 hr(s) 0 min(s) 0 sec(s) 472 ms  
Total Warnings: 9  
Total Errors: 0  
No. of SeqIDs Defined: 9  
Actual SeqID Count: 9

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)

# SEQUENCE LISTING

<110> GAO, Guangxia  
LIU, Shufeng

<120> The Recombinant Murine Leukemia Virus Reverse Transcriptase,  
the Genes Encoding and the Method for Expressing it

<130> Q95957

<140> 10585863

<141> 2009-06-05

<150> PCT/CN04/00039

<151> 2004-01-13

<160> 9

<210> 1

<211> 7488

<212> DNA

<213> artificial sequence

<220>

<223> plasmid DNA

<400> 1

```

ccgacacccat cgaatgggtgc aaaacctttc gcggtatggc atgatagcgc ccggaagaga    60
gtcaattcag ggtggtgaat gtgaaaccag taacgttata cgatgtcgca gagtatgccg   120
gtgtctctta tcagaccgtt tccgcgctgg tgaaccaggc cagccacgtt tctgcgaaaa   180
cgcggggaaaa agtggaagcg gcgatggcgg agctgaatta cattcccaac cgcgtggcac   240
aacaactggc gggcaaacag tcgttgctga ttggcgttgc cacctccagt ctggccctgc   300
acgcgcgcgtc gcaaattgtc gcggcgatta aatctcgcgc cgatcaactg ggtgccagcg   360
tgggtggtgtc gatggtagaa cgaagcggcg tcgaagcctg taaagcggcg gtgcacaatc   420
ttctcgcgca acgcgtcagt gggctgatca ttaactatcc gctggatgac caggatgcca   480
ttgctgtgga agctgcctgc actaatgttc cggcgttatt tcttgatgtc tctgaccaga   540
caccatcaa cagtattatt ttctcccatg aagacgggtac gcgactgggc gtggagcatc   600
tggtcgcat tgggtcaccag caaatcgcgc tgttagcggg cccattaagt tctgtctcgg   660
cgcgtctgcg tctggctggc tggcataaat atctcactcg caatcaaatt cagccgatag   720
cggaacggga aggcgactgg agtgccatgt ccggttttca acaaaccatg caaatgctga   780
atgagggcat cgttcccact gcgatgctgg ttgccaacga tcagatggcg ctgggcgcaa   840
tgcgcgccat taccgagtcc gggctgcgcg ttggtgcgga tatctcggta gtgggatacg   900
acgataccga agacagctca tgttatatcc cgcggttaac caccatcaaa caggattttc   960
gcctgctggg gcaaaccagc gtggaccgct tgctgcaact ctctcagggc caggcggtga  1020
agggcaatca gctgttgccc gtctcactgg tgaagaagaa aaccaccctg gcgcccaata  1080
cgcaaaccgc ctctccccgc gcgttggccg attcattaat gcagctggca cgacaggttt  1140
cccgactgga aagcgggcag tgagcgcaac gcaattaatg tgagttagct cactcattag  1200
gcacaattct catgtttgac agcttatcat cgactgcacg gtgcaccaat gcttctggcg  1260
tcaggcagcc atcggaagct gtggtatggc tgtgcaggtc gtaaatcact gcataattcg  1320
tgtcgtcaa ggcgcactcc cgttctggat aatgtttttt gcgccgacat cataacggtt  1380
ctggcaaata ttctgaaatg agctgttgac aattaatcat cggctcgtat aatgtgtgga  1440
attgtgagcg gataacaatt tgaattctta agatttgtga ggggataaca atttcacaca  1500
ggaaacagaa tatgacccta aatatagaag atgagcatcg gctacatgag acctcaaaag  1560
agccagatgt ttctctaggg tccacatggc tgtctgattt tcctcaggcc tgggcggaaa  1620
ccgggggcat gggactggca gttcgccaag ctctctgat catacctctg aaagcaacct  1680
ctacccccgt gtccataaaa caatacccca tgtcacaaga agccagactg gggatcaagc  1740

```

cccacataca	gagactgttg	gacgcgggaa	ttctggtacc	ctgccagtc	ccctggaaca	1800
cgccccgtct	accggttaag	aaaccaggga	ctaattgatta	taggcctgtc	caggatctga	1860
gagaagtcaa	caagcgggtg	gaagacatcc	accccaccgt	gccaaccct	tacaacctct	1920
tgagcgggct	cccaccgtcc	caccagtggg	acactgtgct	tgatttaaag	gatgcctttt	1980
tctgcctgag	actccacccc	accagtcagc	ctctcttcgc	ctttgagtgg	agagatccag	2040
agatgggaat	ctcaggacaa	ttgacctgga	ccagactccc	acagggtttc	aaaaacagtc	2100
ccacctgttt	tgatgaggca	ctgcacagag	acctagcaga	cttcgggatc	cagcaccag	2160
acttgatcct	gctacagtac	gtggatgact	tactgctggc	cgccacttct	gagctagact	2220
gccaacaagg	tactcgggcc	ctgttacaaa	ccctaggga	cctcgggtat	cgggcctcgg	2280
ccaagaaagc	ccaaatttgc	cagaaacagg	tcaagtatct	ggggtatctt	ctaaaagagg	2340
gtcagagatg	gctgactgag	gccagaaaag	agactgtgat	ggggcagcct	actccgaaga	2400
cccctcgaca	actaaggagg	ttcctaggga	cggcaggctt	ctgtcgcctc	tgatccctg	2460
ggtttgcaga	aatggcagcc	cccttgtacc	ctctcaccaa	aacggggact	ctgtttaatt	2520
ggggcccaga	ccaacaaaag	gcctatcaag	aaatcaagca	agctcttcta	actgccccag	2580
ccctgggggt	gccagatttg	actaagccct	ttgaactctt	tgtcgacgag	aagcagggct	2640
acgccaaagg	tgtcctaacg	caaaaactgg	gaccttggcg	tcggccggtg	gcctacctgt	2700
ccaaaaagct	agaccagta	gcagctgggt	ggcccccttg	cctacggatg	gtagcagcca	2760
ttgccgtact	gacaaaggat	gcaggcaagc	taaccatggg	acagccacta	gtcattctgg	2820
ccccccatgc	agtagaggca	ctagtcaaac	aacccccga	ccgctggctt	tccaacgccc	2880
ggatgactca	ctatcaggcc	ttgcttttgg	acacggaccg	ggccagttc	ggaccggtgg	2940
tagccctgaa	cccggctacg	ctgctcccac	tgctgagga	agggtgcaa	cacaactgcc	3000
ttgatatcct	ggccgaagcc	cacggaaccc	gaccgcacct	aacggaccag	ccgctcccag	3060
acgccgacca	cacctggtac	acgaatggaa	gcagtctctt	acaagaggga	cagcgtaaag	3120
cgggagctgc	ggtgaccacc	gagaccgagg	taatctgggc	taaagccctg	ccagccggga	3180
catccgctca	gcgggctgaa	ctgatagcac	tcaccagggc	cctaaagatg	gcagaaggta	3240
agaagctaaa	tgtttatact	gatagccgtt	atgcttttgc	tactgcccct	atccatggag	3300
aaatatacag	aaggcgtggg	ttgctcacat	cagaaggcaa	agagatcaaa	aataaagacg	3360
agatcttggc	cctactaaaa	gccctctttc	tgcccaaaag	acttagcata	atccattgtc	3420
caggacatca	aaaggacac	agcgcagagg	ctagaggcaa	ccggatggct	gaccaagcgg	3480
cccgaaaggc	agccatcaca	gagactccag	acacctctac	cctcctccat	caccatcacc	3540
atcactagtc	tagagtcgac	ctgcaggcaa	gcttggcact	ggccgtcggt	ttacaacgtc	3600
gtgactggga	aaacctggc	gttaccaca	ttaatcgct	tgcagcacat	cccccttctg	3660
ccagctggcg	taatagcgaa	gaggcccgca	ccgatcgccc	ttcccaacag	ttgcgcagcc	3720
tgaatggcga	atggcagctt	ggctgttttg	gcggatgaga	taagattttc	agcctgatac	3780
agattaaatc	agaacgcaga	agcgggtctga	taaaacagaa	tttgctgggc	ggcagttagc	3840
cgggtggtccc	acctgacccc	atgccgaact	cagaagtga	acgccgtagc	gccgatggta	3900
gtgtggggct	tccccatgcg	agagtaggga	actgccaggc	atcaaataaa	acgaaaggct	3960
cagtcgaaaag	actgggcctt	tcgttttatc	tgtgtttgt	cggatgaacg	tctcctgagt	4020
aggacaaatc	cgccgggagc	ggatttgaac	gttgcgaagc	aacggcccgg	agggtggcgg	4080
gcaggacgcc	cgccataaac	tgccaggcat	caaattaagc	agaaggccat	cctgacggat	4140
ggcctttttg	cgtttctaca	aactcttttt	gtttattttt	ctaaatacat	tcaaatatgt	4200
atccgctcat	gagacaataa	ccctgataaa	tgcttcaata	atattgaaaa	aggaagagta	4260
tgagtattca	acatttccgt	gtcgccctta	ttcccttttt	tgccgcattt	tgcccttctg	4320
tttttgctca	cccagaaacg	ctggtgaaag	taaaagatgc	tgaagatcag	ttgggtgcac	4380
gagtgggtta	catcgaactg	gatctcaaca	gcggtaagat	ccttgagagt	tttcgccccg	4440
aagaacgttc	tccaatgatg	agcactttta	aagtctctgt	atgtggcgcg	gtattatccc	4500
gtgttgacgc	cgggcaagag	caactcggtc	gccgcataca	ctattctcag	aatgacttgg	4560
ttgagtactc	accagtcaca	gaaaagcatc	ttacggatgg	catgacagta	agagaattat	4620
gcagtgtctg	cataaccatg	agtataaca	ctgcggccaa	cttacttctg	acaacgatcg	4680
gaggaccgaa	ggagctaacc	gcttttttgc	acaacatggg	ggatcatgta	actcgccttg	4740
atcgttggga	accggagctg	aatgaagcca	taccaaacga	cgagcgtgac	accacgatgc	4800
ctgtagcaat	ggcaacaacg	ttgcgcaaac	tattaaactgg	cgaactactt	actctagctt	4860
cccggcaaca	attaatagac	tggatggagg	cgataaaagt	tgcaggacca	cttctgcgct	4920
cggcccttcc	ggctggctgg	tttattgctg	ataaatctgg	agccgggtgag	cgtgggtctc	4980
gcggtatcat	tgcagcactg	gggccagatg	gtaagccctc	ccgtatcgta	gttatctaca	5040
cgacggggag	tcaggcaact	atggatgaac	gaaatagaca	gatcgctgag	ataggtgcct	5100
cactgattaa	gcatttggtaa	ctgtcagacc	aagtttactc	atatatactt	tagattgatt	5160

```

taccgccggtt gataatcaga aaagcccaaa aaacaggaag attgtataag caaatattta 5220
aattgtaaac gttaatatTT tgttaaaatt cgcgttaaatt ttttgttaa tcagctcatt 5280
ttttaaccaa taggccgaaa tcggcaaaat cccttataaa tcaaaagaat agcccgagat 5340
aggggttgagt gttgttccag tttggaacaa gagtccacta ttaaagaacg tggactccaa 5400
cgtcaaaggcg cgaaaaaccg tctatcaggcg cgatggccca ctacgtgaac catcacccaa 5460
atcaagtttt ttggggctcga ggtgccgtaa agcactaaat cggaacccta aaggggagccc 5520
ccgatttaga gcttgacggg gaaagccggc gaacgtggcg agaaaggaag ggaagaaagc 5580
gaaaggagcg ggcgctaggg cgctggcaag tgtagcggtc acgctgcgcg taaccaccac 5640
acccgccgcg cttaatgcgc cgctacaggg cgcgtaaaag gatctaggtg aagatccttt 5700
ttgataatct catgaccaa atcccttaac gtgagttttc gttccactga gcgtcagacc 5760
ccgtagaaaa gatcaaagga tcttcttgag atcctttttt tctgcgcgta atctgctgct 5820
tgcaaacaaa aaaaccaccg ctaccagcgg tggtttgttt gccggatcaa gagctaccaa 5880
ctctttttcc gaaggtaact ggcttcagca gagcgcagat accaaatact gtccttctag 5940
tgtagccgta gttaggccac cacttcaaga actctgtagc accgcctaca tacctcgctc 6000
tgctaattcct gttaccagtg gctgctgcca gtggcgataa gtcgtgtctt accgggttgg 6060
actcaagacg atagttaccg gataaggcgc agcggtcggg ctgaacgggg ggttcgtgca 6120
cacagcccag cttggagcga acgacctaca ccgaactgag atacctacag cgtgagctat 6180
gagaaagcgc cacgcttccc gaaggagaaa aggcggacag gtatccggtg agcggcaggg 6240
tcggaacagg agagcgcacg agggagcttc cagggggaaa cgctggtat ctttatagtc 6300
ctgtcgggtt tcgccacctc tgacttgagc gtcgattttt gtgatgctcg tcaggggggc 6360
ggagcctatg gaaaaacgcc agcaacgcgg cctttttacg gttcctggcc ttttgctggc 6420
cttttgctca catgttcttt cctgcgttat ccctgatctc tgtggataac cgtattaccg 6480
cctttgagtg agctgatacc gctcgccgca gccgaacgac cgagcgcagc gagtcaagtga 6540
gcgaggaagc ggaagagcgc ctgatgcggg attttctcct tacgcatctg tcgggtattt 6600
cacaccgcat atggtgcact ctcagtacaa tctgctctga tgccgcatag ttaagccagt 6660
atacactccg ctatcgctac gtgactgggt catggctgcg ccccgacacc cgccaacacc 6720
cgctgacgcg ccctgacggg cttgtctgct cccggcatcc gcttacagac aagctgtgac 6780
cgtctccggg agctgcatgt gtcagagggt ttaccggtca tcaccgaaac gcgcgaggca 6840
gctgcggtaa agctcatcag cgtggctcgtg cagcgattca cagatgtctg cctgttcac 6900
cgcgtccagc tcgttgagtt tctccagaag cgttaatgtc tggcttctga taaagcgggc 6960
catgttaagg gcgggtttttt cctgtttggg cacttgatgc ctccgtgtaa gggggaattt 7020
ctgttcagtg gggtaatgat accgatgaaa cgagagagga tgctcacgat acgggttact 7080
gatgatgaac atgcccggtt actggaacgt tgtgagggtg aacaactggc ggtatggatg 7140
cggcgggacc agagaaaaat cactcagggt caatgccagc gcttcgttaa tacagatgta 7200
gggtgtccac agggtagcca gcagcatcct gcgatgcaga tccggaacat aatggtgcag 7260
ggcgctgact tcgcggtttc cagactttac gaaacacgga aaccgaagac cattcatgtt 7320
gttgctcagg tcgcagacgt tttgcagcag cagtcgcttc acgttcgctc gcgtatcggt 7380
gattcattct gctaaccagt aaggcaaccc cgccagccta gccgggtcct caacgacagg 7440
agcacgatca tgcgcaccgc tggccaggac ccaacgctgc ccgaaatt 7488

```

<210> 2

<211> 671

<212> PRT

<213> artificial sequence

<220>

<223> reverse transcriptase

<400> 2

```

Thr Leu Asn Ile Glu Asp Glu His Arg Leu His Glu Thr Ser Lys Glu
1             5             10             15
Pro Asp Val Ser Leu Gly Ser Thr Trp Leu Ser Asp Phe Pro Gln Ala
             20             25             30
Trp Ala Glu Thr Gly Gly Met Gly Leu Ala Val Arg Gln Ala Pro Leu
             35             40             45
Ile Ile Pro Leu Lys Ala Thr Ser Thr Pro Val Ser Ile Lys Gln Tyr
50             55             60

```

Pro	Met	Ser	Gln	Glu	Ala	Arg	Leu	Gly	Ile	Lys	Pro	His	Ile	Gln	Arg
65					70					75					80
Leu	Leu	Asp	Ala	Gly	Ile	Leu	Val	Pro	Cys	Gln	Ser	Pro	Trp	Asn	Thr
				85					90					95	
Pro	Leu	Leu	Pro	Val	Lys	Lys	Pro	Gly	Thr	Asn	Asp	Tyr	Arg	Pro	Val
			100					105					110		
Gln	Asp	Leu	Arg	Glu	Val	Asn	Lys	Arg	Val	Glu	Asp	Ile	His	Pro	Thr
	115					120						125			
Val	Pro	Asn	Pro	Tyr	Asn	Leu	Leu	Ser	Gly	Leu	Pro	Pro	Ser	His	Gln
	130					135					140				
Trp	Tyr	Thr	Val	Leu	Asp	Leu	Lys	Asp	Ala	Phe	Phe	Cys	Leu	Arg	Leu
145					150					155					160
His	Pro	Thr	Ser	Gln	Pro	Leu	Phe	Ala	Phe	Glu	Trp	Arg	Asp	Pro	Glu
				165					170					175	
Met	Gly	Ile	Ser	Gly	Gln	Leu	Thr	Trp	Thr	Arg	Leu	Pro	Gln	Gly	Phe
			180					185					190		
Lys	Asn	Ser	Pro	Thr	Leu	Phe	Asp	Glu	Ala	Leu	His	Arg	Asp	Leu	Ala
	195						200					205			
Asp	Phe	Arg	Ile	Gln	His	Pro	Asp	Leu	Ile	Leu	Leu	Gln	Tyr	Val	Asp
	210					215					220				
Asp	Leu	Leu	Leu	Ala	Ala	Thr	Ser	Glu	Leu	Asp	Cys	Gln	Gln	Gly	Thr
225					230					235					240
Arg	Ala	Leu	Leu	Gln	Thr	Leu	Gly	Asn	Leu	Gly	Tyr	Arg	Ala	Ser	Ala
				245					250					255	
Lys	Lys	Ala	Gln	Ile	Cys	Gln	Lys	Gln	Val	Lys	Tyr	Leu	Gly	Tyr	Leu
		260						265				270			
Leu	Lys	Glu	Gly	Gln	Arg	Trp	Leu	Thr	Glu	Ala	Arg	Lys	Glu	Thr	Val
	275						280					285			
Met	Gly	Gln	Pro	Thr	Pro	Lys	Thr	Pro	Arg	Gln	Leu	Arg	Glu	Phe	Leu
	290					295					300				
Gly	Thr	Ala	Gly	Phe	Cys	Arg	Leu	Trp	Ile	Pro	Gly	Phe	Ala	Glu	Met
305					310					315					320
Ala	Ala	Pro	Leu	Tyr	Pro	Leu	Thr	Lys	Thr	Gly	Thr	Leu	Phe	Asn	Trp
				325					330					335	
Gly	Pro	Asp	Gln	Gln	Lys	Ala	Tyr	Gln	Glu	Ile	Lys	Gln	Ala	Leu	Leu
			340					345					350		
Thr	Ala	Pro	Ala	Leu	Gly	Leu	Pro	Asp	Leu	Thr	Lys	Pro	Phe	Glu	Leu
	355						360					365			
Phe	Val	Asp	Glu	Lys	Gln	Gly	Tyr	Ala	Lys	Gly	Val	Leu	Thr	Gln	Lys
	370					375					380				
Leu	Gly	Pro	Trp	Arg	Arg	Pro	Val	Ala	Tyr	Leu	Ser	Lys	Lys	Leu	Asp
385					390					395					400
Pro	Val	Ala	Ala	Gly	Trp	Pro	Pro	Cys	Leu	Arg	Met	Val	Ala	Ala	Ile
			405						410					415	
Ala	Val	Leu	Thr	Lys	Asp	Ala	Gly	Lys	Leu	Thr	Met	Gly	Gln	Pro	Leu
		420						425					430		
Val	Ile	Leu	Ala	Pro	His	Ala	Val	Glu	Ala	Leu	Val	Lys	Gln	Pro	Pro
	435						440					445			
Asp	Arg	Trp	Leu	Ser	Asn	Ala	Arg	Met	Thr	His	Tyr	Gln	Ala	Leu	Leu
	450					455					460				
Leu	Asp	Thr	Asp	Arg	Val	Gln	Phe	Gly	Pro	Val	Val	Ala	Leu	Asn	Pro
465					470					475					480
Ala	Thr	Leu	Leu	Pro	Leu	Pro	Glu	Glu	Gly	Leu	Gln	His	Asn	Cys	Leu
				485					490					495	
Asp	Ile	Leu	Ala	Glu	Ala	His	Gly	Thr	Arg	Pro	Asp	Leu	Thr	Asp	Gln
		500						505				510			
Pro	Leu	Pro	Asp	Ala	Asp	His	Thr	Trp	Tyr	Thr	Asn	Gly	Ser	Ser	Leu

515	520	525
Leu Gln Glu Gly Gln Arg Lys Ala Gly Ala Ala Val Thr Thr Glu Thr		
530	535	540
Glu Val Ile Trp Ala Lys Ala Leu Pro Ala Gly Thr Ser Ala Gln Arg		
545	550	555
Ala Glu Leu Ile Ala Leu Thr Gln Ala Leu Lys Met Ala Glu Gly Lys		
565	570	575
Lys Leu Asn Val Tyr Thr Asp Ser Arg Tyr Ala Phe Ala Thr Ala His		
580	585	590
Ile His Gly Glu Ile Tyr Arg Arg Arg Gly Leu Leu Thr Ser Glu Gly		
595	600	605
Lys Glu Ile Lys Asn Lys Asp Glu Ile Leu Ala Leu Leu Lys Ala Leu		
610	615	620
Phe Leu Pro Lys Arg Leu Ser Ile Ile His Cys Pro Gly His Gln Lys		
625	630	635
Gly His Ser Ala Glu Ala Arg Gly Asn Arg Met Ala Asp Gln Ala Ala		
645	650	655
Arg Lys Ala Ala Ile Thr Glu Thr Pro Asp Thr Ser Thr Leu Leu		
660	665	670

<210> 3  
 <211> 7488  
 <212> DNA  
 <213> artificial sequence

<220>  
 <223> plasmid DNA

<400> 3

ccgacacccat cgaatggtgc aaaacctttc gcggtatggc atgatagcgc ccggaagaga	60
gtcaattcag ggtggtgaat gtgaaaccag taacgttata cgatgtcgca gagtatgccg	120
gtgtctctta tcagaccgtt tccgcgctgg tgaaccaggc cagccacgtt tctgcgaaaa	180
cgcgggaaaa agtggaagcg gcgatggcgg agctgaatta cattcccaac cgcggtggcac	240
aacaactggc gggcaaacag tcgttgctga ttggcgttgc cacctccagt ctggccctgc	300
acgcgccgtc gcaaattgtc gcggcgatta aatctcgcg cgatcaactg ggtgccagcg	360
tggtggtgtc gatggtagaa cgaagcggcg tcgaagcctg taaagcggcg gtgcacaatc	420
ttctcgcgca acgcgtcagt gggctgatca ttaactatcc gctggatgac caggatgcca	480
ttgctgtgga agctgcctgc actaatgttc cggcgttatt tcttgatgtc tctgaccaga	540
cacccatcaa cagtattatt ttctcccatg aagacgggtac gcgactgggc gtggagcatc	600
tggtcgcat tgggtcaccag caaatcgcgc tgttagcggg cccattaagt tctgtctcgg	660
cgcgtctgcg tctggctggc tggcataaat atctcaactc caatcaaatt cagccgatag	720
cggaacggga aggcgactgg agtgccatgt ccggttttca acaaaccatg caaatgctga	780
atgagggcat cgttcccat gcgatgctgg ttgccaacga tcagatggcg ctgggcgcaa	840
tgcgcgccat taccgagtcc gggtgcgcg ttggtgcgga tatctcggtg gtgggatacg	900
acgataccga agacagctca tgttatatcc cgccgttaac caccatcaa caggattttc	960
gcctgctggg gcaaaccagc gtggaccgct tgctgcaact ctctcagggc caggcgggtg	1020
agggcaatca gctgttgccc gtctcaactg tgaaaagaaa aaccaccctg gcgccaata	1080
cgcaaaccgc ctctccccgc gcgttggccg attcattaat gcagctggca cgacaggttt	1140
cccgaactgga aagcgggcag tgagcgcaac gcaattaatg tgagttagct cactcattag	1200
gcacaattct catgtttgac agcttatcat cgactgcacg gtgcaccaat gcttctggcg	1260
tcaggcagcc atcggaagct gtggtatggc tgtgcaggtc gtaaatcact gcataattcg	1320
tgtcgctcaa ggcgactcc cgttctggat aatgtttttt gcgccgacat cataacggtt	1380
ctggcaaata ttctgaaatg agctgttgac aattaatcat cggctcgat aatgtgtgga	1440
attgtgagcg gataacaatt tgaattctta agatttgtga ggggataaca atttcacaca	1500
ggaaacagaa tatgacccta aatatagaag atgagcatcg gctacatgag acctcaaaa	1560
agccagatgt ttctctaggg tccacatggc tgtctgattt tcctcaggcc tgggcggaaa	1620
ccgggggcat gggactggca gttcgccaag ctctctgtat catacctctg aaagcaacct	1680

ctacccccgt	gtccataaaa	caatacccca	tgccacaaga	agccagactg	gggatcaagc	1740
cccacataca	gagactggtg	gacaacggga	tcttgggtacc	ctgccagtcc	ccctggaaca	1800
cgcacctgct	acccgttaag	aaaccaggga	ctaatgatta	taggcctgtc	caggatctga	1860
gagaagtcaa	caagcgggtg	gaagacatcc	acccacccgt	gccaaccct	tacaacctct	1920
tgagcgggct	cccaccgtcc	caccagtggg	acactgtgct	tgatttaaag	gatgcctttt	1980
tctgcctgag	actccacccc	accagtcagc	ctctcttcgc	ctttgagtgg	agagatccag	2040
aga						